

Draft

SUBSTITUTE ENVIRONMENTAL DOCUMENT

Revised Water Quality Standards for Surface Waters of the Antelope Hydrologic Unit

California Regional Water Quality Control Board
Lahontan Region
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TABLE OF CONTENTS

	Page
Executive Summary	4
Introduction	5
Project Description	7
Implementation	8
Purpose of and Need for Amendments	9
Approvals Required	9
Environmental Setting	9
Environmental Impacts	12
Environmental Checklist	15
Determination	31
Alternatives to the Proposed Action	31
Mitigation and Mitigation Monitoring	33
Other Considerations	34
Conclusions and Recommendations	36
Preparers	37
References	37
APPENDICES	
Appendix I. Definitions of Beneficial Uses	39
Appendix II. "Cortese List" Sites in the Antelope HU	41
Appendix III. Sensitive Species of the Antelope HU	42

LIST OF TABLES

		Page
Table 1	Ammonia Limits Under Existing and Proposed Water Quality Objectives	8
Table 2	Comparison of Secondary and Tertiary Effluent Quality	11

LIST OF FIGURES

Figure 1	Map of Antelope Valley	6
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EXECUTIVE SUMMARY

The proposed action is adoption of amendments to the Basin Plan to establish site-specific water quality objectives (SSOs) for ammonia toxicity for specific effluent-dominated surface waters in the Lancaster Hydrologic Area (HA) of the Antelope Hydrologic Unit (HU), and site-specific beneficial uses for these and other waters. Other informational and editorial changes would also be made to the plan. The effluent-dominated waters (lower Amargosa Creek and the Piute Ponds and wetlands) currently receive treated wastewater from the Los Angeles County Sanitation District No. 14 (LACSD No. 14) secondary treatment facilities, but will receive tertiary effluent following the completion of new facilities. The Basin Plan amendments would be implemented through the Water Board's existing permitting and enforcement authority. Implementation would include revisions to LACSD No. 14's waste discharge requirements and the discharger self-monitoring program would be modified to reflect the revised standards.

The proposed SSOs are based on the U.S. Environmental Protection Agency's (USEPA's) 1999 national freshwater ammonia toxicity criteria. They would be less stringent than the existing regionwide water quality objectives for ammonia toxicity, but would require ammonia concentrations lower than historical levels in the affected waters. LACSD is expected to be able to meet the new objectives with the use of tertiary treated effluent beginning in 2010.

This environmental document evaluates potential environmental impacts in relation to the existing environment, including those resulting from discharge of secondary treated effluent. The Water Board's action to adopt the proposed amendments will not have any significant environmental impacts (defined as physical changes in the environment). The potential indirect impacts of the Basin Plan amendments are related to changes in the applicability of certain water quality objectives and waste discharge prohibitions as a result of changes in designated beneficial uses. Based on available information, including the expected improvement in ambient water quality from the use of tertiary effluent, this environmental document concludes that the indirect impacts of adopting the amendments will be less than significant. However, the available information is limited, and additional monitoring is recommended.

Potentially controversial environmental issues associated with the amendments include the appropriateness of proposed site-specific beneficial uses, the level of risk assigned to the potential for water quality degradation as a result of less stringent water quality objectives, and the degree to which the proposed ammonia toxicity SSOs protect aquatic life and wildlife uses.

INTRODUCTION

The California Regional Water Quality Control Board, Lahontan Region (Water Board) is the State agency responsible for setting and enforcing water quality standards for surface and ground waters in about 20 percent of California, including the northern Mojave Desert. Water quality standards and control measures are contained in the *Water Quality Control Plan for the Lahontan Region* (Basin Plan). Water quality standards in California include designated beneficial uses, narrative and numeric water quality objectives established to protect those uses, and a non-degradation policy, State Water Resources Control Board Resolution 68-16. (The term "water quality objectives" is equivalent to the federal term "criteria.")

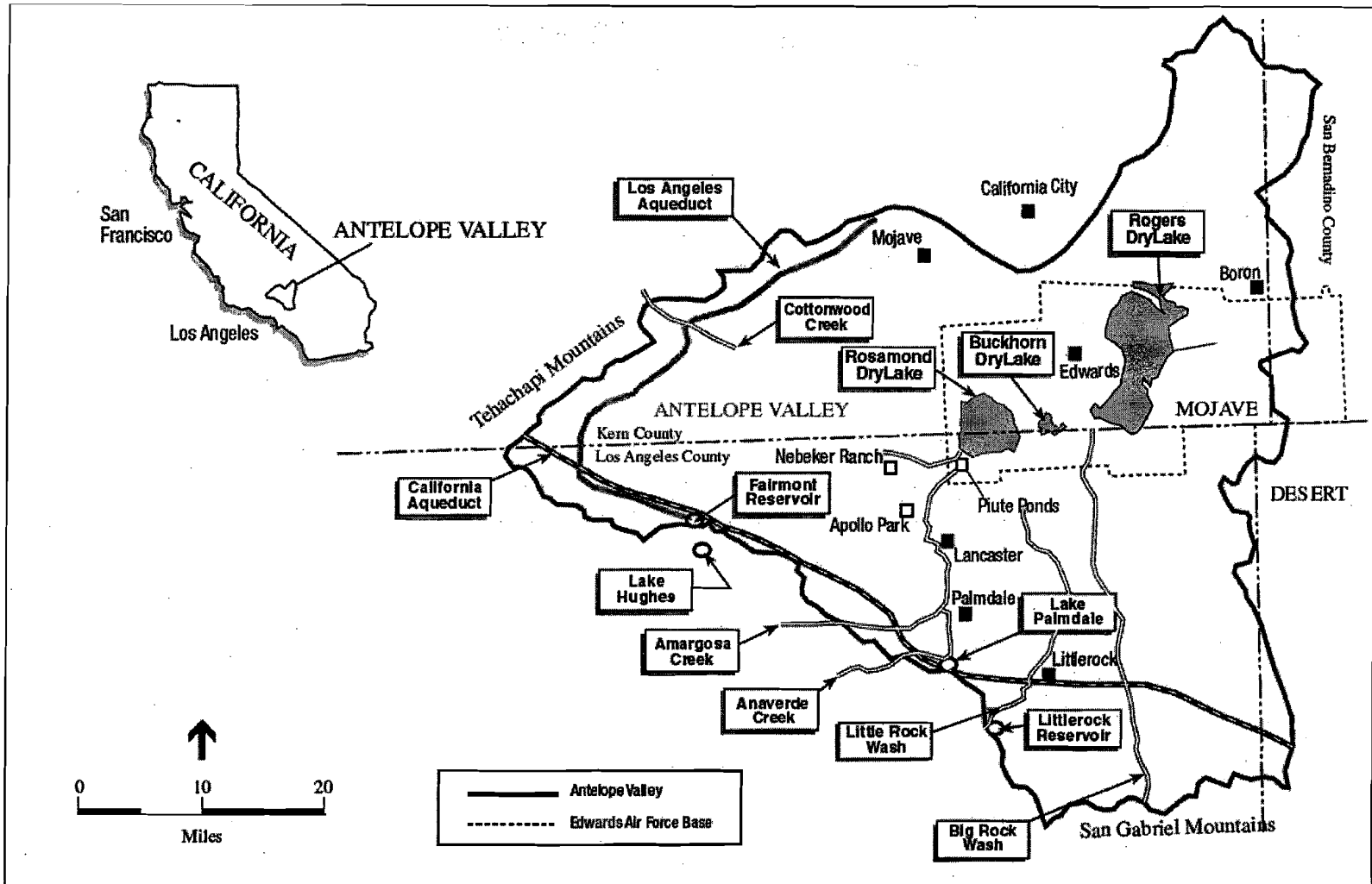
The Lahontan Basin Plan does not currently include site-specific beneficial use designations for Amargosa Creek, the Piute Ponds and associated wetlands, and Rosamond Dry Lake, all located in the vicinity of Lancaster, California (Figure 1). These waters have categorically designated beneficial uses as "Minor Surface Waters" or "Minor Wetlands" of the Lancaster Hydrologic Area within the Antelope Hydrologic Unit (Hydrologic Unit No. 626.50). The Antelope Hydrologic Unit as a whole includes portions of Kern and Los Angeles Counties as well as western San Bernardino County. The water quality objectives applicable to these waters are those that apply to surface waters regionwide, including objectives for short-term (acute) and long-term (chronic) ammonia toxicity.

Los Angeles County Sanitation District No. 14 (LACSD No. 14) has proposed that site-specific beneficial uses be designated, and site-specific water quality objectives (SSOs) for ammonia toxicity be adopted for the effluent-dominated surface waters downstream of its wastewater discharge point. The technical background for the amendments is presented in a separate Water Board staff report (California Regional Water Quality Control Board, Lahontan Region, 2007).

The Water Board's planning process has been certified by the Secretary for Resources under Section 21080.5 of the California Environmental Quality Act (CEQA). This certification allows the preparation of a "substitute environmental document" (SED) in lieu of an Environmental Impact Report (EIR) for proposed Basin Plan amendments. Like an EIR, the SED must include a discussion of alternatives and mitigation measures.

Electronic copies of the existing Basin Plan, the proposed amendments, and the technical staff report are available on the Water Board's Internet web page at: http://www.waterboards.ca.gov/lahontan/BPlan/BPlan_Index.htm. Paper copies of public draft documents related to these amendments may be obtained by contacting the Board's administrative staff at (530) 542-5400.

Figure 1. Map of Antelope Valley



SOURCE: Environmental Science Associates

LWRP 2020 Plan EIR / 200481

Figure 4.3-1

PROJECT DESCRIPTION

The complete text of the proposed amendments is contained in a separate document (California Regional Water Quality Control Board, Lahontan Region, 2007). The amendments include:

Editorial Clarification of Existing Beneficial Use Designations. The proposed amendments would change Basin Plan Table 2-1 to clarify that the Cold Freshwater Habitat (COLD) and Commercial and Sportfishing (COMM) beneficial use designations apply to the "Minor Surface Waters" category in each of the eight Hydrologic Areas within the Antelope Hydrologic Unit as well as to the "Minor Surface Waters" category for the Hydrologic Unit as a whole. This is an informational rather than a regulatory change.

Site-Specific Beneficial Uses. The proposed Basin Plan amendments would establish site-specific beneficial uses for the affected surface waters by adding new rows to Table 2-1. Site-specific beneficial uses would include the current designated uses for waters within the categories "Minor Surface Waters" and "Minor Wetlands" in the Lancaster HA, with the following changes:

- Removal of the Municipal and Domestic Supply (MUN), Water Contact Recreation (REC-1), Cold Freshwater Habitat (COLD), and Commercial and Sportfishing (COMM) beneficial use designations, where they now apply, from all surface waters downstream of the LACSD No. 14 discharge point.
- Removal of the Agricultural Supply (AGR) use from Rosamond Dry Lake.
- Addition of new beneficial use designations for Piute Ponds and the associated wetlands, including Freshwater Replenishment (FRSH), Rare, Threatened, and Endangered Species Habitat (RARE), and Preservation of Biological Habitats of Special Significance (BIOL).
- Addition of the Inland Saline Water Habitat (SAL) beneficial use designation for the ephemeral surface waters of Rosamond Dry Lake.

Site-Specific Water Quality Objectives (SSOs) for Ammonia Toxicity. The proposed amendments to Basin Plan Chapter 3 would add site-specific water quality objectives for total ammonia concentrations to prevent acute (1-hour) and chronic (30-day average) toxicity in Piute Ponds, the associated wetlands, and the reach of Amargosa Creek affected by effluent discharges. The proposed SSOs are based on the USEPA's 1999 freshwater ammonia criteria. They will include a narrative objective with equations for calculating ammonia limits, and new tables of ammonia limits under specific temperature and pH conditions. The existing regionwide ammonia toxicity objectives will continue to apply to other surface waters in the Antelope HA, including the segment of Amargosa Creek

upstream of the LACSD No. 14 discharge. Table 1 compares the existing and proposed ammonia limits at typical temperature and pH conditions monitored in Piute Ponds.

For comparison with Table 1, LACSD No. 14's future tertiary wastewater treatment facilities are expected to produce an average total ammonia concentration below detection levels in undisinfected effluent. Ammonia will be added during the disinfection process, and the estimated total ammonia concentration in the disinfected tertiary effluent is 1 milligram per liter (mg/L).

Table 1. Ammonia Limits Under Existing and Proposed Water Quality Objectives. Concentrations are total ammonia in milligrams per liter (mg/L) as N. The pH is assumed to be 8.0 units and the temperature to be 15°C.

	Existing Regionwide Objectives ¹	Proposed SSOs
Acute (1-hour) limit	5.7 mg/L	8.40 mg/L
Chronic² limit	1.29 mg/L	2.36 mg/L

¹ From Basin Plan Tables 3.1 through 3.4, with conversion of ammonia "as NH₃" concentrations to "as N" concentrations. Allowable total ammonia concentrations for the WARM and COLD beneficial uses are the same under the temperature and pH conditions cited above.

² The current region-wide objectives specify allowable chronic concentrations as 4-day averages; the 1999 USEPA criteria and the proposed amendments specify 30-day averages, and provide that the highest four-day average in the 30 day period shall not exceed 2.5 times the chronic limit.

Informational Update of the Description of LACSD No. 14 Facilities in Chapter 4. The facilities description on page 4.4-12 of the Basin Plan dates from 1994 and is out of date with respect to LACSD No. 14's current (2004) facilities plan. The current description will be replaced with a summary of the major elements in the 2004 facilities plan, including the use of tertiary effluent to maintain the Piute Ponds and wetlands beginning in 2010.

Miscellaneous editorial changes including corrections of typographical errors, and updates of the "Record of Amendments" page, Table of Contents, List of Tables, List of Figures, Index, Bibliography, and page numbers to reflect the amendments.

IMPLEMENTATION

The proposed Basin Plan amendments would be implemented through the Water Board's existing permitting and enforcement authority. The proposed SSOs for ammonia toxicity include direction on determination of average temperature and pH conditions for use in calculation of allowable ammonia limits, and in determination of compliance. Aside from this, no new or revised implementation language would be added to the Basin Plan under the amendments. After final

approval of the SSOs and designated beneficial uses, LACSD's waste discharge requirements and discharger self-monitoring program would be revised to reflect them. The SSOs and site-specific beneficial uses will be considered in development of future Water Board permits and monitoring programs for other discharges to surface waters in the Amargosa Creek and Rosamond Dry Lake watersheds.

PURPOSE OF AND NEED FOR AMENDMENTS

The amendments are needed to facilitate ongoing Water Board permitting of LACSD No. 14's discharge to surface waters. The editorial changes to Table 2-1 are needed to clarify the applicability of current beneficial use designations to hydrologic areas within the Antelope HU. The proposed site-specific beneficial use designations would reflect the existing uses of the waters in question more accurately than some of the current designated uses. The proposed SSOs for ammonia toxicity would be more easily attainable in effluent dominated waters, while protecting aquatic life and wildlife uses.

APPROVALS REQUIRED

After their adoption by the Lahontan Regional Board, the Basin Plan amendments must be approved by the California State Water Resources Control Board (State Water Board) and the California Office of Administrative Law before taking effect. The approval of the U.S. Environmental Protection Agency, Region IX (USEPA) will not be required for the revised standards, since the U.S. Army Corps of Engineers has determined that the affected waters are not "waters of the United States." USEPA approval may be required for editorial plan amendments to clarify standards for other surface waters of the Antelope HU. The Water Board's substitute environmental document is not expected to be used in permitting by any other lead agencies or responsible agencies under CEQA.

ENVIRONMENTAL SETTING

The information contained in this section is an overview and is not meant to be comprehensive. Please see the Water Board's technical staff report for more detailed information on the environmental setting, including water quality. Much of the information in the staff technical report is from the 2004 EIR for the LACSD No. 14 facilities plan, prepared by Environmental Science Associates (ESA).

The Antelope HU corresponds roughly to the boundaries of "Antelope Valley" which has an area of about 2400 square miles. It is an internally drained watershed with Rogers Dry Lake as the lowest point. Figure 1 shows the

location of the Antelope HU and the major water bodies affected by the proposed Basin Plan amendments. Lower Amargosa Creek, the Piute Ponds and wetlands, and Rosamond Dry Lake are located within the boundaries of Edwards Air Force Base (EAFB), and EAFB controls public access to them. Use of the area is limited to EAFB and LACSD No. 14 personnel, and small groups of students, birdwatchers, hunters, and scientists allowed entry under permits from EAFB.

Amargosa Creek is a mostly ephemeral stream with headwaters in Angeles National Forest in the San Gabriel Mountains. It includes intermittent reaches supporting aquatic/wetland habitat in the San Andreas Rift Zone. Portions of the creek have undergone extensive hydromodification for flood control. Amargosa Creek, the Piute Ponds, Rosamond Dry Lake, and all other waters within the boundaries of EAFB have been determined not to be "waters of the United States" by the U.S. Army Corps of Engineers.

The Piute Ponds and wetlands were originally created in 1961 through impoundment of Amargosa Creek near its confluence with Rosamond Dry Lake. Additional ponds have since been constructed as waterfowl habitat by Ducks Unlimited. The ponds and wetlands are effluent-dominated, but they also receive occasional stormwater flows from Amargosa Creek. The ponds and wetlands are located on a prehistoric playa lakebed, and naturally high concentrations of salts are present in addition to the salts contributed by wastewater.

Rosamond Dry Lake is a desert playa lake that is often dry. However, surface runoff creates ephemeral ponds during wet winters. A recent study (Lichvar et al., 2002) shows that ponds form on the average every other year. These ponds support fairy shrimp and other organisms adapted to moderately saline conditions, and provide foraging habitat for migratory birds. Ponding near the southwest corner of Rosamond Dry Lake has also historically been affected by overflows of effluent from Piute Ponds. The Water Board has identified the overflows as a potential nuisance and directed LACSD No.14 to end them. Under the District's 2004 facilities plan, the ponds will be maintained at the same wetted area (about 400 acres) with a smaller volume of effluent in order to prevent overflows.

There are at least 28 kinds of aquatic invertebrates in the Piute Ponds. There are three species of non-native warmwater fish (brown bullhead, carp, and mosquitofish) in the ponds, and several species of amphibians with aquatic larvae in the area. As one of the few perennial water habitats in the Antelope Valley, the Piute Ponds are very important as habitat for migratory birds. At least 36 threatened, endangered, or otherwise sensitive species, mostly birds, have been reported to use the Piute Ponds area. The ponds and Rosamond Dry Lake are located on the Pacific Flyway, an important international bird migration corridor. Rosamond Dry Lake is a designated "Significant Ecological Area" (SEA) under the Los Angeles County General Plan. The California Department of

Fish and Game (DFG) has designated Piute Ponds a regionally important wildlife habitat. Audubon California has identified EAFB, including the Piute Ponds and wetlands and Rosamond Dry Lake, as an "Important Bird Area." Appendix III is a summary of sensitive species in the Antelope HU.

Public Resources Code section 21092.6 requires lead agencies to disclose whether the project site is on a list of hazardous substance sites maintained under Government Code section 65962.5 (the "Cortese List"). As explained on the California Environmental Protection Agency's Internet web page¹, the current version of the "Cortese List" includes several databases maintained by different agencies. Searches of these databases show 182 "Cortese List" sites in the Antelope HU as a whole. Most of these are underground storage tank cleanup sites. Appendix II summarizes total numbers of sites by city and county. Of the sites in the Amargosa Creek watershed, LACSD No. 14 is a "Cortese List" site

Table 2. Comparison of Secondary and Tertiary Effluent Quality. Figures for average undisinfected secondary effluent are from ESA (2004). Estimated quality of tertiary effluent from the new activated sludge/nitrification-denitrification facilities is from Table 4 in Sanitation Districts of Los Angeles County (2006).

Constituent	Historical Secondary Effluent Quality	Estimated Tertiary Effluent Quality
Soluble Biochemical Oxygen Demand (BOD), mg/L	18	<4
pH (pH units)	8.0	7.5
Dissolved oxygen (mg/L)	8.2	7.5
Total dissolved solids (mg/L)	546	550
Total suspended solids (mg/L)	89	<2
Total nitrogen (mg/L)		10
Total Kjeldahl nitrogen (mg/L)	24.5	2
Nitrate nitrogen (mg/L)	0.83	
Nitrate plus nitrite (mg/L)		8
Ammonia nitrogen (mg/L)	13.1	1
Sulfate (mg/L)	67	80
Chloride (mg/L)	141	140
Total hardness (mg/L)	143	
Total phosphate (mg/L)	12.5	
Total organic carbon (mg/L)	55.8	<10
Turbidity (Nephelometric Turbidity Units or NTU)	NA ¹	0.8
Chlorine (mg/L)	NA	<0.1
Boron (mg/L)	NA	0.5

¹ NA = data not available

¹ See: <http://www.calepa.ca.gov/SiteCleanup/CorteseList/default.htm>

due to a current Lahontan Water Board order. The entire EAFB is a listed (U.S. Superfund) site, and there are four specific listed sites within the base. These cleanup sites are located near Rogers Dry Lake, about 20 miles away from the Piute Ponds and wetlands.

LACSD No. 14's service area includes the city of Lancaster and portions of the city of Palmdale. The population of this area is expected to increase to 252,248 by 2020, more than doubling the 2001 population of 122,548. In 2004, the District adopted a "2020 Facilities Plan" that calls for replacement and phased expansion of its treatment facilities to a capacity of 26 million gallons per day (from a permitted capacity of 16.0 million gallons per day in 2002). Most of the District's wastewater currently receives secondary treatment and historically about two thirds was disposed to the Piute Ponds and wetlands. After 2010, all of the effluent is expected to receive tertiary treatment, and most of it will be directed to new storage reservoirs for agricultural and municipal reuse. LACSD No. 14's secondary effluent is disinfected to meet California Department of Health Services Title 22 recycled water requirements for "restricted recreational impoundments" and this level of disinfection is expected to continue with tertiary treatment. Table 2, above, compares the quality of existing (secondary) effluent with the estimated quality of future (tertiary) effluent.

ENVIRONMENTAL IMPACTS

Introduction. This section addresses the impacts of proposed changes in water quality standards. The proposed editorial and informational revisions to the Basin Plan will have no environmental impacts and will not be discussed further in this substitute environmental document.

The Water Board's action to adopt the proposed Basin Plan amendments will not in itself have direct adverse environmental impacts (defined under California Code of Regulations, Title 14, section 15358 as physical effects on the environment). Indirect impacts on water quality and certain beneficial uses may occur as a result of the proposed changes in water quality standards. The Environmental Checklist focuses on these indirect impacts, and includes "No Impact" or "Less than significant impact" answers for categories and questions that are not related to water quality changes.

The direct and indirect environmental impacts of LACSD No. 14's 2020 Facilities Plan, including the impacts of constructing and operating new wastewater treatment and storage facilities, are not considered to be indirect impacts of the proposed Basin Plan amendments. The LACSD No. 14 adopted its plan and a final EIR in 2004, with mitigation for most environmental impacts and CEQA findings of overriding consideration for some impacts. The LACSD No. 14 will implement its facilities plan, including the use of tertiary effluent to maintain the Piute Ponds and wetlands beginning in 2010, whether or not the Basin Plan is amended. The LACSD No. 14 will be responsible for preparing any needed

subsequent or supplemental environmental documents for the phased components of its facilities plan as they are proposed for implementation. Attainment of the proposed ammonia toxicity objectives should be feasible without any changes in the facilities plan that could be considered indirect impacts of the Basin Plan amendments.

Effluent Quality and Ambient Water Quality. Under CEQA, environmental analyses must be done in relation to the existing environment. In this case, that environment includes ambient water quality in LACSD No. 14's receiving waters as affected by natural conditions, past and present discharges of secondary effluent, and stormwater inflows. The cumulative indirect impacts of the proposed Basin Plan amendments will occur in relation to future tertiary effluent discharges, naturally present pollutants, stormwater, and the "legacy" impacts of secondary effluent disposal. Legacy impacts may include high concentrations of some constituents, such as phosphorus, in the sediment.

The Water Board's technical staff report for the Basin Plan amendments reviews historic monitoring data for LACSD No. 14's receiving waters in relation to state and federal drinking water standards and human health and aquatic life criteria. State drinking water standards, called Maximum Contaminant Levels (MCLs) apply to ambient surface waters designated for the MUN use under the region-wide water quality objectives for Chemical Constituents and Radioactivity.

Monitoring data for the waters affected by the Basin Plan amendments are limited. The only quantitative data for Amargosa Creek above the LACSD discharge point are for a single storm event. Violations of state drinking water MCLs have occurred for aluminum, iron, manganese and total dissolved solids in Piute Ponds. The current state MCL for arsenic (50 micrograms per liter, or $\mu\text{g/L}$) was not violated in Piute Ponds, but the federal MCL (10 $\mu\text{g/L}$) was. Violations of other state or federal human health criteria occurred in the Piute Ponds for these parameters and for acrolein and chloroform. Violations of the USEPA's chronic (4-day average) freshwater aquatic life criteria for aluminum, chloride, and iron occurred in the Piute Ponds. Violations of drinking water standards for multiple constituents have also been recorded at LACSD No. 14's monitoring station in the historic overflow area on Rosamond Dry Lake. The salt-related violations probably reflect natural salts dissolved from the lakebed as well as wastewater constituents.

Ambient water quality monitoring has historically been done about once a month, and consequently there are no data on the extent to which biologically important parameters such as temperature and dissolved oxygen change throughout the day. There are no data available on emerging pollutants of concern such as pharmaceuticals and personal care products for either effluent or ambient surface waters.

As shown in Table 2, tertiary effluent quality is expected to improve substantially compared to secondary effluent with respect to constituents such as biochemical oxygen demand, total suspended solids, total nitrogen and ammonia. "Total Kjeldahl nitrogen" (TKN) includes organic nitrogen plus total ammonia nitrogen. The total nitrogen content of secondary effluent (TKN plus nitrate) is about 25.33 mg/L, compared to the estimated total nitrogen concentration of 10 mg/L or less in tertiary effluent. (Forms of nitrogen other than ammonia need to be considered in the environmental analysis because nitrogen can affect beneficial uses as a nutrient, and nitrate and nitrite can be toxic to aquatic organisms.) The concentrations of Total Dissolved Solids (TDS), and of constituents of TDS such as chloride, will remain about the same in tertiary effluent as in secondary effluent.

Ambient water quality in lower Amargosa Creek and the Piute Ponds and wetlands should improve with the use of tertiary effluent, whether or not the Basin Plan amendments are adopted. The improvement is expected from lower concentrations of some wastewater constituents, including ammonia, and reduced loading of all wastewater constituents with lower effluent volumes. However, the degree of improvement cannot be predicted at this time.

Natural biochemical and physical processes that will affect future ambient water quality include nutrient uptake by plants and microorganisms, release of constituents such as phosphorus from the sediment, and volatilization of ammonia gas. The receiving waters are located on a prehistoric playa lakebed, and salts and trace elements such as arsenic from the playa will continue to affect water quality. Ambient TDS (a proxy for salinity) will continue to change seasonally with water levels.

The proposed changes in some designated beneficial uses will change the applicability of existing water quality objectives associated with those uses, as follows:

- For waters no longer designated for the Municipal and Domestic Supply (MUN) use, state drinking water standards (now applicable under the water quality objectives for Chemical Constituents and Radioactivity) will no longer apply.
- Waters without the MUN use will no longer be subject to a prohibition against toxic waste discharges under Proposition 65, the Safe Drinking Water and Toxic Enforcement Act of 1986. Industrial discharges to surface waters without the MUN use may be permitted under certain circumstances (see Basin Plan page 4.1-1).
- For waters designated for the Warm Freshwater Habitat (WARM) use but not the Cold Freshwater Habitat (COLD) use, less stringent standards for dissolved oxygen and temperature will apply.

No changes in the applicability of water quality objectives will occur as a result of the removal of the Water Contact Recreation (REC-1) beneficial use. The Water Board's regionwide objective for coliform bacteria will continue to apply, whether or not the REC-1 use is removed. The objective applies to bacteria from human sources; as discussed in the staff report, ambient bacteria levels are high and are expected to remain high due to bird wastes.

These changes in the applicability of certain water quality objectives could indirectly result in lower water quality and impact the aquatic life and wildlife uses of the affected water bodies. The Environmental Checklist, below, concludes that such impacts would be less than significant due to the expected overall improvement in ambient water quality with the use of tertiary effluent. For clarity, discussions of answers to Checklist questions directly follow each impact category.

ENVIRONMENTAL CHECKLIST

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS- -Would the project:				
a) Have a substantial adverse effect on a scenic vista?				X
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c) Substantially degrade the existing visual character or quality of the site and its surroundings?				X
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?				X

The potential changes in ambient water quality as a result of the revised standards will not have any significant adverse indirect impacts on the visual quality of the environment.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
II. AGRICULTURE RESOURCES-- Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?				X

The Basin Plan amendments would include removal of the categorically designated Agricultural Supply beneficial use from Rosamond Dry Lake. The staff report provides evidence that the Agricultural Supply use is not an existing use of Rosamond Dry Lake and cannot feasibly be attained. The potential changes in ambient water quality of lower Amargosa Creek and the Piute Ponds and wetlands as a result of the revised standards will not have any significant adverse indirect impacts on agriculture. The affected waters are not currently used for agricultural supply, and to Water Board staff's knowledge, there are no plans to use them for agricultural supply in the future.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY-- Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?				X
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?				X
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?				X
d) Expose sensitive receptors to substantial pollutant concentrations?				X
e) Create objectionable odors affecting a substantial number of people?				X

The potential changes in ambient water quality as a result of the revised standards will not have any significant adverse indirect impacts on air quality. Reduced ambient ammonia concentrations, compared to the existing environment, should reduce the potential for localized odor problems due to the volatilization of ammonia from surface waters. Adoption of the Basin Plan amendments will not directly or indirectly result in any construction or land disturbance activities that could release naturally occurring asbestos into the air.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES -- Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?			X	
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?			X	
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				X
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?				X
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X

The Piute Ponds and wetlands support sensitive wildlife species (see Appendix III), and wetlands are considered sensitive ecological communities. The proposed Basin Plan amendments would recognize the importance of these biological resources through formal designation of the RARE and BIOL beneficial uses for these surface waters and wetlands. The amendments would also retain the categorically designated WQE and FLD beneficial uses that apply to all

wetlands of the Lahontan Region. The technical staff report provides evidence that these are existing uses that must be protected whether or not they are formally designated.

The Lahontan Basin Plan includes a region-wide narrative water quality objective that requires nondegradation of wetland biological communities and populations. Due to the scarcity of biological information on the Piute Ponds wetlands, no quantitative estimate of the effects of revised standards on compliance with this objective is possible.

The proposed SSOs for ammonia toxicity would allow higher ambient ammonia concentrations than the limits in the existing water quality objectives (see Table 1). Actual ambient concentrations are expected to decrease significantly over historic levels with the change to tertiary effluent. The scientific literature reviewed in the USEPA's (1999) report on its freshwater ammonia toxicity criteria indicates that the SSOs will be protective of the three warmwater fish species that occur in the Piute Ponds.

Changes in ambient water quality as indirect impacts of the proposed removal of the MUN and COLD beneficial use designations could adversely affect sensitive species and their habitat (Checklist Questions IVa and IVb). The sensitive bird species listed in Appendix III could be affected by changes in their drinking water quality and their aquatic/wetland food supply. Also, at least five species of amphibians with aquatic life cycle stages are present at Piute Ponds.

With removal of the MUN beneficial use, state drinking water standards (including those for toxic substances and nitrate) would no longer apply to the waters downstream of the LACSD No. 14 discharge point to Amargosa Creek. The Proposition 65 prohibition against discharges of toxics to existing or potential sources of drinking water would also no longer apply. Since few scientific water quality criteria have been developed for the protection of wildlife, human health criteria and drinking water standards, where they apply, are generally regarded as adequate to protect wildlife. If the MUN use is removed, the narrative objectives for toxicity and pesticides in the Basin Plan, and the portion of the radioactivity objective that does not reference drinking water standards, will remain in effect. However, there will be no quantitative standards for specific toxic pollutants present in the ponds (e.g. arsenic and aluminum). Note that the federal California Toxics Rule (40 CFR 131.38) and National Toxics Rule (40 CFR 131.36) standards for toxic "priority pollutants" do not apply to the waters in question because they are not "waters of the United States."

The only water quality objective for nitrogen that currently applies to lower Amargosa Creek, the Paiute Ponds and Wetlands, and Rosamond Dry Lake is the drinking water MCL for nitrate, 10 mg/L. If the MUN use is removed, there will be no applicable standards for nitrate or for any form of nitrogen other than ammonia. The narrative objective for biostimulatory substances will remain in

effect. Nitrogen is of concern not only because it promotes eutrophication at concentrations much lower than the drinking water standard, but also because it is toxic to amphibians.

The mean total nitrogen concentration for eutrophic lakes reported in a USEPA (1999) publication is 1900 micrograms per liter ($\mu\text{g/L}$) or 1.9 mg/L. The mean total nitrogen concentrations at two stations in Piute Ponds were about 26 mg/L and 11 mg/L, respectively, in 2005. The scientific literature shows chronic toxicity effects on amphibians at nitrate concentrations as low as 2-5 mg/L (Rouse et al., 1999). The estimated level of total nitrogen in LACSD No. 14's tertiary effluent is 10 mg/L, including about 8 mg/L of nitrate, 1 mg/L of ammonia, and 2 mg/L of refractory organic nitrogen compounds (Sanitation Districts of Los Angeles County, 2006).

Ambient concentrations of the nutrients nitrogen and phosphorus must be considered in evaluation of the attainment of aquatic life uses. Future ambient nitrogen levels in the ponds will probably decrease over historic levels due to the use of tertiary effluent, reduced nitrogen loading with lower effluent volumes, and biological processes that sequester or remove nitrogen from the system. (Sequestration and removal of nitrogen occur under existing conditions.) Ambient water quality monitoring data for phosphorus are not available. However, the sediments in the ponds and wetlands probably contain high concentrations of phosphorus from almost 40 years of wastewater disposal. When it is released into the water column, this phosphorus has the potential to stimulate the growth of nitrogen-fixing blue-green algae. Future ambient nutrient concentrations and their impacts on aquatic life and wildlife uses of the ponds and wetlands cannot be predicted at this time.

Removal of the COLD beneficial use would allow larger fluctuations in temperature and lower ambient dissolved oxygen concentrations. The objective for temperature requires that there be no change in the natural temperatures of waters designated for the COLD use, and allows no more than a 5 degree Fahrenheit change above or below the natural temperature for waters designated for the WARM use. The lowest dissolved oxygen concentrations in Basin Plan Table 3-6 are 1-day minima of 3.0 mg/L for waters designated for the WARM use and 4.0 mg/L for waters designated for the COLD use.

The potential impacts on biological resources discussed above are less than significant, when evaluated in relation to the existing environment. This conclusion is based on the projected overall improvement in water quality from the use of tertiary effluent, and the Board's authority to use the water quality objectives and waste discharge prohibitions that will remain in effect (including the objective for toxicity) to ensure that adverse impacts on biological resources will not occur.

Checklist Question IVc, regarding impacts on federally protected wetlands, is answered "No Impact" because the affected waters have been determined by the U.S. Army Corps of Engineers not to be "waters of the United States," and they are not federally protected under Section 404 of the Clean Water Act. The wetlands associated with Piute Ponds are waters of the State and will continue to be protected through existing provisions of the Basin Plan. The proposed amendments will not directly or indirectly result in any dredge or fill activities.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES -- Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?				X
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?				X
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				X
d) Disturb any human remains, including those interred outside of formal cemeteries?				X

The proposed Basin Plan amendments will not indirectly result in any soil disturbance or other human activities that could affect cultural resources. The potential changes in ambient water quality as a result of the revised standards will not have any significant adverse indirect impacts on cultural resources.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. GEOLOGY AND SOILS -- Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.				X
ii) Strong seismic ground shaking?				X
iii) Seismic-related ground failure, including liquefaction?				X
iv) Landslides?				X

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Result in substantial soil erosion or the loss of topsoil?				X
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?				X
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?				X
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				X

The proposed Basin Plan amendments will not result in any construction, land disturbance activities or new discharges that could indirectly affect local geology and soil properties or risks associated with geology and soils. Changes in water quality as a result of the revised standards may affect the chemistry of sediments associated with the affected water bodies. However, these changes are unlikely to cause new or increased geologic hazards.

Antelope Valley is a seismically active area, bounded by a section of the San Andreas Fault. Edwards Air Force Base and LACSD No. 14 staff and visitors to the Piute Ponds and wetlands are currently exposed to seismic risks. The degree of risk will not change as a result of the changes in water quality allowed by the proposed Basin Plan amendments.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. HAZARDS AND HAZARDOUS MATERIALS -- Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?				X
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?			X	
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				X
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				X

As noted in the Environmental Setting section, there are "Cortese List" hazardous substance sites within the affected watersheds, including Edwards Air Force Base and LACSD No.14 (Question VII d). However, the proximity of these sites to the affected waters does not create a significant hazard to the public or to visitors to the ponds and wetlands. The revised standards will not affect risks of upset involving releases of hazardous materials to the environment. Changes in water quality are not expected to occur in waters near schools or public or private airports as a result of the proposed amendments (Questions VII b, VII c, and VII e through VII h).

The removal of the MUN use from the affected waters would change the applicability of drinking water standards for toxic substances, the Proposition 65 waste discharge prohibition, and the region-wide prohibition against industrial waste discharges. Municipal and industrial waste discharges to these waters would still be required to comply with region-wide effluent limitations contained within the Basin Plan. These limitations require that discharges contain "essentially none" of a variety of toxic and deleterious substances. The region-wide water quality objectives for toxics and pesticides, and the portion of the radioactivity objective that does not reference drinking water standards, would remain in effect.

The categorically designated Commercial and Sportfishing (COMM) beneficial use is proposed to be removed from lower Amargosa Creek, the Piute Ponds, and Rosamond Dry Lake. Support of this use is evaluated in terms of fishing by humans, for either sport fish or commercial fish, and human fish consumption criteria for various toxic substances. The technical staff report provides evidence that COMM is not an existing use of the affected waters, and that human consumption of the fish in Piute Ponds is not likely to occur in the future. Therefore, the risk of increased concentrations of toxic substances as a result of removal of the MUN use will not affect any COMM uses of these waters.

Hunting of waterfowl occurs at the Piute Ponds and wetlands, and is considered part of the Non-contact Water Recreation beneficial use. The extent to which human consumption of waterfowl occurs is unknown. Game waterfowl using the Piute Ponds and wetlands are primarily migratory, and any bioaccumulation of toxic substances would be less than for resident populations. It would be speculative to evaluate the extent of human exposure to toxic substances bioaccumulated in eaten waterfowl tissue. CEQA does not require analysis of speculative impacts.

Changes in the applicability of water quality objectives and the Proposition 65 waste discharge prohibition as a result of removal of the MUN use could create a risk that hazardous materials might be disposed to lower Amargosa Creek, the Piute Ponds and wetlands, and Rosamond Dry Lake (Checklist Question VIIa). However, the Lahontan Water Board can use the remaining water quality objectives and waste discharge prohibitions as conditions in waste discharge permits and enforcement orders to ensure that hazardous materials are not disposed to these surface waters. The MUN use and the associated water quality objectives and waste discharge prohibition language will continue to apply upstream of LACSD No. 14's discharge point.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. HYDROLOGY AND WATER QUALITY -- Would the project:				
a) Violate any water quality standards or waste discharge requirements?				X
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?				X

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?				X
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	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?				X
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?				X
f) Otherwise substantially degrade water quality?			X	
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?				X
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				X
j) Inundation by seiche, tsunami, or mudflow?				X

The Basin Plan amendments will not indirectly result in any water diversions or construction activities that would affect surface or ground water quantity, drainage patterns or flood flows. Lower Amargosa Creek, the Piute Ponds and wetlands, and Rosamond Dry Lake are located within a flood plain, and a dike separates the ponds and wetlands from Rosamond Dry Lake. Stormwater ponding occurs on Rosamond Dry Lake during wet years, and waves on the lake could be caused by earthquakes, creating tsunamis or seiches, or by wind, creating seiches. Changes in water quality as a result of the Basin Plan amendments will not change the current extent of risks associated with flood hazards, dike failure, tsunamis, or seiches.

The proposed amendments would increase the allowable ambient concentration of ammonia in the affected waters (see Table 1), and change the applicability of some existing water quality objectives by removing the designated MUN and COLD beneficial uses. (See the introduction to the Environmental Impacts Section and the discussion of impacts on Biological Resources for more detailed information.) Because of the expected improvement in ambient water quality over historic and existing conditions, the risk of water quality degradation as an indirect impact of the amendments (Checklist Question VIII f) is considered less than significant. Future ambient water quality will depend on the quality of

tertiary effluent and on complex biochemical processes that affect the cycling of wastewater constituents in the receiving waters.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. LAND USE AND PLANNING -- Would the project:				
a) Physically divide an established community?				X
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				X
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?				X

The potential changes in ambient water quality as a result of the revised standards will not have any significant adverse indirect impacts on land use. The formal designation of the existing RARE and BIOL beneficial uses for the Piute Ponds and wetlands will complement applicable habitat conservation plans.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X. MINERAL RESOURCES -- Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X

The potential changes in ambient water quality as a result of the revised standards will not have any significant adverse indirect impacts on mineral resources. There are no known commercial mineral resources or resource recovery sites on Rosamond Dry Lake or near Lower Amargosa Creek or the Piute Ponds and wetlands. Since these waters are located entirely within EAFB, commercial extraction of mineral resources is unlikely to be proposed or permitted in the future.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. NOISE -- Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?				X
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?				X
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?				X
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?				X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				X

The potential changes in ambient water quality as a result of the revised standards will not have any significant adverse indirect impacts on current noise levels or the extent to which Edwards Air Force Base and LACSD No. 14 staff, and visitors to the Piute Ponds and wetlands are exposed to noise.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. POPULATION AND HOUSING -- Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X

There will be no new construction or population growth as an indirect result of the Basin Plan amendments. The potential changes in ambient water quality as a result of the revised standards will not have any significant adverse indirect impacts on population and housing.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. PUBLIC SERVICES				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?				X
Police protection?				X
Schools?				X
Parks?				X
Other public facilities?				X

As noted in the introduction to the Environmental Impacts section, the impacts of facilities construction under LACSD No. 14's 2004 facilities plan are not considered indirect impacts of the proposed Basin Plan amendments. The potential changes in water quality as a result of the revised standards will not have any indirect impacts associated with the construction or physical alteration of government facilities.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. RECREATION				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				X

Recreational use of the Piute Ponds and wetlands is not expected to increase as a result of the water quality changes that could result indirectly from the revised standards. There will be no new recreational facilities or associated construction activities as an indirect result of the Basin Plan amendments.

The proposed amendments include removal of the water contact recreation (REC-1) beneficial use designation based on the Water Board staff report's conclusion that REC-1 is not an existing use and cannot reasonably be attained. As noted above, tertiary effluent disposed to LACSD No. 14's surface receiving waters will continue to be disinfected to meet California Department of Health Services recycled water requirements for restricted recreational impoundments. Removal of the REC-1 use will not adversely affect existing and future Non-contact Water Recreation (REC-2) beneficial uses of the affected waters, such as hunting, birdwatching, and visits by school groups.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. TRANSPORTATION/TRAFFIC				
-- Would the project:				
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?				X
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?				X
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				X
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X
e) Result in inadequate emergency access?				X
f) Result in inadequate parking capacity?				X
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?				X

There will be no construction or changes in traffic patterns, traffic hazards or level of service as an indirect result of the Basin Plan amendments. The potential

changes in ambient water quality as a result of the revised standards will not have any significant adverse indirect impacts on transportation and traffic.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. UTILITIES AND SERVICE SYSTEMS -- Would the project				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				X
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?				X
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				X
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?				X
g) Comply with federal, state, and local statutes and regulations related to solid waste?				X

The impacts of facilities construction under LACSD No. 14's 2004 facilities plan are not considered indirect impacts of the proposed Basin Plan amendments. Following final approval of the amendments, the Lahontan Water Board will update LACSD No. 14's waste discharge requirements to be compatible with the revised standards (Question XVIa).

The potential changes in ambient water quality as a result of the revised standards will not have any indirect impacts associated with the construction of or service capacity of public utilities, stormwater facilities or landfills.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?			X	
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?			X	
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?				X

Mandatory Findings of Significance.

a) Potential for Degradation. The Environmental Checklist identifies the potential for degradation of water quality due to the adoption of less stringent water quality objectives for ammonia toxicity and changes in beneficial use designations that change the applicability of certain water quality objectives and waste discharge prohibitions. Degradation of water quality could indirectly affect the beneficial uses of water associated with aquatic life habitat, wildlife habitat, and recreation. The risk of degradation as an indirect impact of the Basin Plan amendments is concluded to be less than significant because of the overall improvement over existing environmental conditions expected from the use of tertiary effluent.

b) Cumulative Impacts. The risk of water quality degradation as an indirect impact of the proposed Basin Plan amendments will occur cumulatively over time concurrent with the impacts of past and future wastewater and stormwater discharges to the affected waters. Water Board staff are not aware of any reasonable foreseeable projects by EAFB that could have cumulative impacts with the Basin Plan amendments. The cumulative impacts of the proposed amendments are judged to be less than significant because of the overall

improvement over existing environmental conditions expected from the use of tertiary effluent.

c) Substantial adverse impacts on human beings. The adoption and implementation of the proposed amendments will enhance existing aquatic life, wildlife, and recreational beneficial uses by decreasing ammonia toxicity compared to historic and existing levels, and will not have substantial adverse effects on human beings.

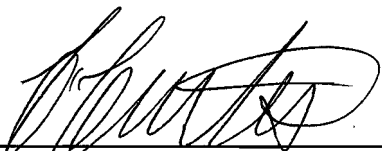
DETERMINATION

On the basis of this evaluation and staff report for the Basin Plan amendments, which collectively provide the required information:

 x I find the proposed Basin Plan amendments could not have a significant or potentially significant effect on the environment.


 I find that the proposed Basin Plan amendments could have a significant or potentially significant adverse effect on the environment. However, there are feasible alternatives and/or feasible mitigation measures that would substantially lessen any significant adverse impact. These alternatives are discussed below.

 I find the proposed Basin Plan amendment may have a significant effect on the environment. There are no feasible alternatives and/or feasible mitigation measures available which would substantially lessen some significant adverse impacts. See the attached written report for a discussion of this determination.



CHUCK CURTIS,

Supervising Water Resource Control Engineer



Date

ALTERNATIVES TO THE PROPOSED ACTION

Environmental Impact Reports and the Water Board's substitute environmental documents must discuss a range of alternatives that would mitigate the significant environmental impacts of the proposed action. The adoption of the proposed Basin Plan amendments will not have direct significant adverse

environmental impacts, and the indirect impacts of changes in water quality standards are expected to be less than significant. The action alternatives below would reduce the degree of risk associated with the indirect impacts of the proposed action.

Alternative 1. No Action (No Basin Plan Amendments)

Under this alternative, Basin Plan amendments would not be adopted, and the current categorical beneficial use designations would continue to apply to all surface waters of the Lancaster Hydrologic Area. Existing uses of specific water bodies that are not formally designated, such as the Rare, Threatened and Endangered Species (RARE) use of the Piute Ponds and wetlands, would still require protection.

The existing water quality objectives include more stringent ammonia toxicity limits for waters designated for the Cold Freshwater Habitat (COLD) use than for the Warm Freshwater Habitat (WARM) use under some temperature and pH conditions. Both use designations would continue to apply to LACSD No 14's receiving waters, and the District would be required to meet the most stringent applicable limits for ammonia. Retention of all of the currently designated beneficial uses (including MUN, and COLD) would also keep other more stringent water quality objectives in effect. The Proposition 65 waste discharge prohibition would continue to apply to waters designated for the MUN use. This alternative would not have any indirect adverse impacts on the environment.

The estimated concentration of total ammonia in the tertiary effluent to be discharged to lower Amargosa Creek and the Piute Ponds and wetlands in the future is 1 mg/L, expressed "as nitrogen." Based on this estimate, LACSD No. 14 might be able to meet the chronic toxicity limit in the existing water quality objective if the "No Project" alternative were selected. (See Table 1.) There is insufficient information available at this time on the range of variation of total ammonia concentrations in the effluent to allow conclusions on whether the existing acute toxicity limit for ammonia can be met.

As noted above, limited historic monitoring data show violations of some drinking water standards in Piute Ponds. Compliance with all drinking water standards might not be feasible in the future, even with tertiary effluent, due to natural sources and legacy pollutants from the disposal of secondary effluent.

Alternative 2. Amend Beneficial Uses Without Adopting SSOs for Ammonia

Under this alternative, the existing acute and chronic toxicity limits for ammonia that are associated with the WARM but not the COLD beneficial use would apply to lower Amargosa Creek and the Piute Ponds and wetlands. As noted for Alternative 1, it may be feasible for LACSD to meet at least the existing acute limits using tertiary effluent. Indirect impacts associated with changes in

beneficial uses would be the same as those of the proposed action. For a discussion of changes in the applicability of water quality objectives as a result of changes in beneficial uses, see the introduction to the Environmental Impacts section, above.

Alternative 3. Adopt SSOs for Ammonia Without Amending Beneficial Uses

Under this alternative, ammonia toxicity limits less stringent than those in the existing water quality objectives, but lower than historic ambient concentrations, would apply to lower Amargosa Creek and the Piute Ponds and wetlands. The water quality objectives associated with the current categorically designated beneficial uses, and the Proposition 65 waste discharge prohibition, would continue to apply. Because the ammonia SSOs are protective of the warm water fish species found in Piute Ponds, this alternative would not have significant adverse indirect impacts.

Alternative Considered but Rejected

In 2003, LACSD No. 14 proposed SSOs for ammonia toxicity based on a consultant's toxicology tests on an invertebrate species resident in Piute Ponds (Larry Walker Associates, 2003). At the time, LACSD was planning to expand its facilities using secondary treatment, and its proposed SSOs were significantly less stringent than both the existing objectives and the 1999 USEPA criteria. In 2004, Water Board staff prepared preliminary draft Basin Plan amendments and a technical staff report using the District's proposed SSOs. These documents were reviewed by two external scientific peer reviewers pursuant to Health and Safety Code section 57004. Both reviewers were critical of the toxicology studies used to develop the SSOs. Because of this criticism, and because LACSD No. 14 subsequently adopted a facilities plan involving tertiary treatment of the effluent to be discharged to lower Amargosa Creek and the Piute Ponds and wetlands, Water Board staff are not recommending consideration of the SSOs proposed in the peer review draft as a CEQA alternative.

Environmentally Superior Alternative

Under CEQA, lead agencies must identify the environmentally superior alternative. "No project" is the environmentally superior alternative. This alternative retains the existing more stringent water quality objectives for ammonia and other parameters associated with the MUN and COLD beneficial uses that would be removed under the proposed Basin Plan amendments.

MITIGATION AND MITIGATION MONITORING

This substitute environmental document concludes that the proposed Basin Plan amendments will not have significant direct or indirect impacts on the

environment. Therefore, discussion of mitigation measures and mitigation monitoring is not necessary. The revised water quality standards will be implemented through changes in LACSD No. 14's waste discharge requirements and discharger self monitoring program. The "Conclusion and Recommendations" section below includes suggestions for additional monitoring and special studies to supplement the limited available information and data used as the basis for the proposed amendments.

OTHER CONSIDERATIONS

Public Resources Code Section 21159

The California Water Code (Section 13360) prohibits Water Boards from specifying the means of compliance with their orders. However, the California Environmental Quality Act (Sections 21159 and 21159.4) requires Water Boards, to analyze reasonable means of compliance with the new regulations whenever adopting requirements for the installation of new pollution control equipment or new performance standards for pollution control. The analyses must include general consideration of environmental impacts, alternatives, and mitigation measures. The following is a summary of potential means of compliance with the performance standards that would be established by the proposed Basin Plan amendments. Environmental impacts, alternatives, and mitigation measures are addressed elsewhere in this substitute environmental document.

LACSD No. 14 is expected to be the primary party needing to comply with the revised standards. The proposed site-specific beneficial uses for Amargosa Creek upstream of the wastewater discharge are the same as the categorically designated uses currently applicable to the creek. The addition of these uses to Basin Plan Table 2-1 will make no difference in Water Board permitting and enforcement activities for discharges affecting this segment of Amargosa Creek or its tributaries. Water Board staff are not aware of any current or proposed activities by EAFB that could be affected by the proposed changes in standards for waters within EAFB boundaries, including Rosamond Dry Lake.

If the proposed Basin Plan amendments are approved, revisions to LACSD No. 14's waste discharge requirements (WDRs) will reflect the SSOs for ammonia toxicity, the new site-specific beneficial uses and the consequent changes in applicable water quality objectives and waste discharge prohibitions. This could result in deletion or relaxation of some current effluent limitations. No changes in LACSD No. 14's treatment and disposal practices as outlined in the 2004 facilities plan are expected to be necessary for compliance with revised effluent limitations related to the proposed Basin Plan amendments.

The economic impacts of LACSD's adopted facilities plan have already been disclosed. No changes in the conceptually approved facilities, and no additional

costs, should be necessary to ensure attainment of the new ammonia toxicity SSOs. When adopting its 2004 facilities plan, LACSD No. 14 committed to maintain the Piute Ponds and wetlands with tertiary effluent, and this commitment will be carried out whether or not the SSOs are approved.

Water Code Section 13241

Section 13241 of the California Water Code lists factors that must be considered by Water Boards when adopting water quality objectives. As interpreted by the State Board's Office of the Chief Counsel, this section does not apply to Basin Plan amendments concerning new or revised beneficial uses or to any other kinds of plan amendments that do not include adoption of Water Quality objectives. The following discussion summarizes information applicable to each of the subsections of Section 13241 in connection with the proposed site-specific water quality objectives for ammonia toxicity, and the changes in applicable water quality objectives due to the proposed revisions to beneficial uses.

Past, present and probable future beneficial uses. See the discussions of specific beneficial uses in the technical staff report.

Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto. Information is provided in this substitute environmental document and the technical staff report on the environmental setting of the affected waters and on surface water quality in relation to specific beneficial uses.

Water quality conditions that could reasonably be achieved through the coordinated control of all factors that affect water quality in the area. The Water Board will regulate discharges by LACSD No. 14 to the surface waters affected by the Basin Plan amendments in coordination with control of other point and nonpoint sources in the Lancaster Hydrologic Area. Although monitoring data for other sources such as stormwater are limited, the LACSD No. 14 discharge is probably the most significant source of ammonia and other constituents entering lower Amargosa Creek and the Piute Ponds and wetlands. The Water Board is part of a stakeholder group that is developing an Integrated Regional Water Management Plan (IRWMP) for the Antelope Valley Region (Los Angeles County Department of Public Works, 2007). This plan will provide for greater coordination of local and imported water supplies, and increased use of recycled water.

Economic considerations. LACSD No. 14 will implement its facilities plan, including construction of a new tertiary treatment plant and maintenance of Paiute Ponds with tertiary effluent, whether or not the proposed Basin Plan amendments are adopted. With tertiary effluent, LACSD should be able to comply with the proposed ammonia SSOs without additional costs beyond those in the facilities plan. There may be changes in the costs of ambient water quality

monitoring and laboratory analyses associated with revisions to LACSD No. 14's self monitoring program.

Need for developing housing within the region. The proposed Basin Plan amendments are not expected to affect the development of housing in the Lancaster HA. LACSD No 14's 2020 Facilities Plan provides for the expansion of wastewater treatment and disposal facilities to accommodate flows from new and existing development in the District's service area through 2020, based on projections by the Southern California Association of Governments (SCAG).

ESA (2004) reported a 102 percent increase in housing stock in the area between 1980 and 1990, and a 14 percent increase between 1990 and 2000. SCAG forecasts the total number of households in the City of Lancaster to increase from 41,449 in 2000 to 81,345 in 2020. Prices for both old and new homes in Antelope Valley are lower than in the Santa Clarita and San Fernando Valleys, and a substantial number of Antelope Valley residents are commuters.

Need to develop and use recycled water. Lower Amargosa Creek and the Piute Ponds and wetlands are currently maintained as surface water bodies primarily through the use of recycled water. These uses are expected to continue. LACSD No. 14's facilities plan calls for increased recycled water use for agriculture and municipal landscaping projects. The ecological and recreational importance of the ponds and wetlands has been widely recognized, and LACSD is committed to maintaining them through a 1981 Memorandum of Agreement with EAFB and the California Department of Fish and Game. The draft IRWMP recognizes the importance of recycled water as part of an integrated effort to increase and conserve water supplies in the region. It includes the goal of maximizing the beneficial reuse of wastewater, by increasing infrastructure, and projects the use 33% of recycled water in the region by 2015, 66% by 2025, and 100% by 2035.

CONCLUSION AND RECOMMENDATIONS

Based on the information and data in the record, this substitute environmental document concludes that the proposed Basin Plan amendments will not have significant direct or indirect adverse environmental impacts. However, more data on ambient water quality and ecological processes in the affected waters is desirable. The Board could require collection of information and data through revisions to LACSD No. 14's discharger self monitoring program, or through its authority under Water Code section 13267. Possible components of an expanded program of monitoring and/or special studies include:

- More frequent and focused sampling to document ambient environmental conditions in Piute Ponds (e.g., diurnal, seasonal, and/or annual variation in constituents such as water temperature, total ammonia, total nitrogen,

total phosphorus, and dissolved oxygen, and cycling of nutrients and toxic constituents between sediment and the water column).

- Analysis of “emerging” pollutants such as pharmaceuticals, personal care products, and endocrine disruptors in effluent and ambient waters.
- Studies of existing and potential wetland functions and processes in the Piute Ponds wetlands complex and the feasibility of enhancing these functions (e.g., increasing uptake of nutrients by wetland vegetation, harvesting of vegetation to remove toxic constituents, reconfiguring wetland hydrology to maximize water quality enhancement functions, etc.)
- Studies to evaluate nitrate toxicity to amphibians at levels likely to be present in Paiute Ponds.
- Tissue monitoring for chemicals of greatest potential concern for wildlife and human health (because of human consumption of waterfowl).

Better information and data would enable Board staff to evaluate compliance with current and revised water quality standards, support of aquatic life and wildlife beneficial uses, and the possible need for development of additional SSOs to protect these uses.

PREPARERS

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APPENDIX I

Definitions of Beneficial Uses¹

AGR	Agricultural Supply. Beneficial uses of waters used for farming, horticulture, or ranching, including but not limited to irrigation, stock watering, and support of vegetation for range grazing
BIOL	Preservation of Biological Habitats of Special Significance. Beneficial uses of waters that support designated uses or habitats, such as established refuges, parks, sanctuaries, ecological reserves, and Areas of Special Biological Significance (ASBS), where the preservation and enhancement of natural resources requires special protection.
COLD	Cold Freshwater Habitat. Beneficial uses of waters that support cold water ecosystems including, but not limited to preservation and enhancement of aquatic habitats, vegetation, fish, and wildlife, including invertebrates.
COMM	Commercial and Sportfishing. Beneficial Uses of waters used for commercial or recreational collection of fish and other organisms including, but not limited to, uses involving organisms intended for human consumption.
FLD	Flood Peak Attenuation/Flood Water Storage. Beneficial Uses of riparian wetlands in flood plain areas and other wetlands that receive natural surface drainage and buffer its passage to receiving waters.
FRSH	Freshwater Replenishment. Beneficial Uses of waters used for natural or artificial maintenance of surface water quantity or quality (e.g., salinity).
GWR	Ground Water Recharge. Beneficial uses of waters used for natural or artificial recharge of ground water for purposes of future extraction, maintenance of water quality, or halting of saltwater intrusion into freshwater aquifers.
MUN	Municipal and Domestic Supply. Beneficial uses of waters used for community, military or individual water supply systems including, but not limited to, drinking water supply.
RARE	Rare, Threatened, or Endangered Species. Beneficial uses of waters that support habitat necessary for the survival and successful maintenance of plant or animal species established under state and/or federal law as rare, threatened or endangered.

¹ Definitions are from Chapter 2 of the Lahontan Basin Plan.

REC-1	Water Contact Recreation. Beneficial uses of waters used for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white water activities, fishing, and use of natural hot springs.
REC-2	Non-contact Water Recreation. Beneficial uses of water used for recreational activities involving proximity to water, but not normally involving body contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to: picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, and aesthetic enjoyment in conjunction with the above activities.
SAL	Inland Saline Water Habitat. Beneficial uses of waters that support inland saline water ecosystems, including but not limited to, preservation and enhancement of aquatic saline habitats, vegetation, fish and wildlife, including invertebrates.
WARM	Warm Freshwater Habitat. Beneficial Uses of waters that support warm water ecosystems including, but not limited to, preservation of aquatic habitats, vegetation, fish and wildlife, including invertebrates.
WILD	Wildlife Habitat. Beneficial uses of waters that support wildlife habitats including, but not limited to, the preservation and enhancement of vegetation and prey species used by wildlife, such as waterfowl.
WQE	Water Quality Enhancement. Beneficial uses of waters that support natural enhancement or improvement of water quality in or downstream of a water body including, but not limited to, erosion control, filtration and purification of naturally occurring water pollutants, streambank stabilization, maintenance of channel integrity, and siltation control.

APPENDIX II

“Cortese List” Sites in the Antelope HU

County/City	Number of Sites in Envirostor Database ¹	Number of LUST Sites in GeoTracker Database	Number of Sites with Water Board Cleanup Orders	Total Cortese List Sites
Kern County				
Edwards (and EAFB)	1	1	3	5
Mojave	8	14		22
Rosamond	11	3		14
Los Angeles County				
Llano	1			1
Lancaster	22	78	2	82
Palmdale	1	54	2	57
Pearblossom	1			1
TOTAL	24	150	9	182

¹The Envirostor database includes the Pacific Pipeline project, following a railroad right-of-way in both Los Angeles and Kern Counties.

Appendix III

Sensitive Species of the Antelope HU. Source: California Department of Fish and Game
California Natural Diversity Database Quick Viewer, http://imaps.dfg.ca.gov/viewers/cnddb_quickviewer/

Common Name	Scientific Name	Federal Status	State Status ¹
Mammals			
Mohave ground squirrel	<i>Spermophilus mohavensis</i>		Threatened
Nelson's antelope squirrel	<i>Ammospermophilus nelsoni</i>		Threatened
Tehachapi pocket mouse	<i>Perognathus alticola inexpectatus</i>		SC
Southern grasshopper mouse	<i>Onychomys torridus ramona</i>		SC
Pallid San Diego pocket mouse	<i>Chaetodipus fallax pallidus</i>		SC
South coast marsh vole	<i>Microtus californicus stephensi</i>		SC
Pale big-eared bat	<i>Corynorhinus townsendii pallescens</i>		SC
Pallid bat	<i>Antrozous pallidus</i>		SC
American Badger	<i>Taxidea taxus</i>		SC
Spotted bat	<i>Euderma maculatum</i>		SC
Hoary bat	<i>Lasiurus cinereus</i>		SC
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>		SC
Western mastiff bat	<i>Eumops perotis californicus</i>		SC
Birds			
Le Conte's thrasher	<i>Toxostoma lecontei</i>		SC
Crissal thrasher	<i>Toxostoma crissale</i>		SC
Mountain plover	<i>Charadrius montanus</i>		SC
Western snowy plover	<i>Charadrius alexandrinus nivosus</i>	Threatened	SC
California condor	<i>Gymnogyps californianus</i>	Endangered	Endangered
Prairie falcon	<i>Falco mexicanus</i>		SC
Merlin	<i>Falco columbarius</i>		SC
Tricolored blackbird	<i>Agelaius tricolor</i>		SC
Cooper's hawk	<i>Accipiter cooperi</i>		SC
Short-eared owl	<i>Asio flammeus</i>		SC
Long-eared owl	<i>Asio otus</i>		SC
Burrowing owl	<i>Athene cunicularia</i>		SC
Swainson's hawk	<i>Buteo swainsoni</i>		Threatened
Ferruginous hawk	<i>Buteo regalis</i>		SC
Golden eagle	<i>Aquila chrysaetos</i>		SC
Gray vireo	<i>Vireo vicineor</i>		SC
Loggerhead shrike	<i>Lanius ludovicianus</i>		SC
California horned lark	<i>Eremophila alpestris actia</i>		SC
White-faced ibis	<i>Plegadis chihi</i>		SC
Reptiles			
Desert tortoise	<i>Gopherus agassizii</i>	Threatened	Threatened
Southwestern pond turtle	<i>Actinemys marmorata pallida</i>		SC
Coast (San Diego) horned lizard	<i>Phrynosoma coronatum (blainvillei)</i>		SC
Coast (California) horned lizard	<i>Phrynosoma coronatum (frontale)</i>		SC
Silvery legless lizard	<i>Anniella pulchra pulchra</i>		SC
Chuckwalla	<i>Sauromalus ater</i>		NONE
Two-striped garter snake	<i>Thamnophis hammondi</i>		SC
Amphibians			
Tehachapi slender salamander	<i>Batrachoseps stebbinsi</i>		Threatened
Yellow-blotched salamander	<i>Ensatina eschscholtzii croceator</i>		SC

Common Name	Scientific Name	Federal Status	State Status ¹
California red-legged frog	<i>Rana aurora draytonii</i>	Threatened	SC
Mountain yellow-legged frog	<i>Rana muscosa</i>	Endangered	SC
Arroyo toad	<i>Bufo californicus</i>	Endangered	SC
Coast Range newt	<i>Taricha torosa torosa</i>		SC
Plants			
Slender silver-moss	<i>Anomobryum julaceum</i>		CNPS 2.2
Spjut's bristle-moss	<i>Orthotrichum spjutii</i>		CNPS 1B.3
Scalloped moonwort	<i>Botrychium crenulatum</i>		CNPS 2.2
Mingan moonwort	<i>Botrychium minganense</i>		CNPS 2.2
Spanish needle onion	<i>Allium shevockii</i>		CNPS 1B.3
San Gabriel Manzanita	<i>Arctostaphylos gabrielensis</i>		CNPS 1B.2
Kusche's sandwort	<i>Arenaria macradenia</i> var. <i>kuschei</i>		CNPS 1B.1
San Antonio milk-vetch	<i>Astragalus lentiginosus</i> var. <i>antonius</i>		CNPS 1B.3
Big Bear Valley woollypod	<i>Astragalus leucolobus</i>		CNPS 1B.2
Lancaster milk-vetch	<i>Astragalus preussii</i> var. <i>laxiflorus</i>		CNPS 1B.1
Slender mariposa lily	<i>Calochortus clavatus</i> var. <i>gracilis</i>		CNPS 1B.2
Alkali mariposa lily	<i>Calochortus striatus</i>		CNPS 1B.2
Palmer's mariposa lily	<i>Calochortus palmeri</i> var. <i>palmeri</i>		CNPS 1B.2
Plummer's mariposa lily	<i>Calochortus plummerae</i>		CNPS 1B.2
Booth's evening primrose	<i>Camissonia boothii</i> ssp. <i>boothii</i>		CNPS 2.3
Fox sedge	<i>Carex vulpinoidea</i>		CNPS 2.2
Mt. Gleason Indian paintbrush	<i>Castilleja gleasonii</i>		Rare, CNPS 1B.2
San Fernando Valley spineflower	<i>Chorizanthe parryi</i> var. <i>fernandina</i>	Candidate	Endangered, CNPS 2.2
White-bracted spineflower	<i>Chorizanthe xanti</i> var. <i>leucotheca</i>		CNPS 1B.2
Kern Canyon clarkia	<i>Clarkia xantiana</i> ssp. <i>parviflora</i>		CNPS 1B.2
Peirson's spring beauty	<i>Claytonia lanceolata</i> var. <i>peirsonii</i>		CNPS 1B.1
Clokey's cryptantha	<i>Cryptantha clokeyi</i>		CNPS 1B.1
Desert cymopteris	<i>Cymopteris deserticola</i>		CNPS 1B.2
Red rock tarplant	<i>Deinandra arida</i>		CNPS 1B.2
Mojave tarplant	<i>Deinandra mohavensis</i>		Endangered, CNPS 1B.3
Recurved larkspur	<i>Delphinium recurvatum</i>		CNPS 1B.2
Southern alpine buckwheat	<i>Eriogonum kennedyi</i> var. <i>alpigenum</i>		CNPS 1B.3
Kern buckwheat	<i>Eriogonum kennedyi</i> var. <i>pinicola</i>		CNPS 1B.1
Johnston's buckwheat	<i>Eriogonum microthecum</i> var. <i>johnstonii</i>		CNPS 1B.3
Barstow wooly sunflower	<i>Eriophyllum mohavense</i>		CNPS 1B.2
Round-leaved filaree	<i>Erodium macrophyllum</i>		CNPS 1B.1
Red Rock poppy	<i>Eschscholzia minutiflora</i> ssp. <i>twissellmannii</i>		CNPS 1B.2
Hot springs fimbristylis	<i>Fimbristylis thermalis</i>		CNPS 2.2
Mexican flannelbush	<i>Fremontodendron mexicanum</i>	Endangered	Rare, CNPS 1B.1
Striped adobe-lily	<i>Fritillaria striata</i>		CNPS 1B.1
Delicate bluecup	<i>Githopsis tenella</i>		CNPS 1B.2
Los Angeles sunflower	<i>Helianthus nuttalli</i> sssp. <i>parishii</i>		CNPS 1A
Coulter's goldfields	<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>		CNPS 1B.1
Pale-yellow layia	<i>Layia heterotricha</i>		CNPS 1B.1

Common Name	Scientific Name	Federal Status	State Status ¹
Comanche Point layia	<i>Layia leucopappa</i>		CNPS 1B.1
Lemon lily	<i>Lilium parryi</i>		CNPS 1B.2
San Gabriel linanthus	<i>Linanthus concinnus</i>		CNPS 1B.2
Sagebrush loeflingia	<i>Loeflingia squarrosa</i> var. <i>artemisiarum</i>		CNPS 2.2
Peirson's lupine	<i>Lupinus peirsonii</i>		CNPS 1B.3
Davidson's bush mallow	<i>Malacothamnus davidsonii</i>		CNPS 1B.2
Creamy blazing star	<i>Mentzelia tridentata</i>		CNPS 1B.3
Calico monkeyflower	<i>Mimulus pictus</i>		CNPS 1B.2
Flax-like monardella	<i>Monardella linoides</i> ssp. <i>oblonga</i>		CNPS 1B.3
Baja navarretia	<i>Navarretia peninsularis</i>		CNPS 1B.2
Short-joint beavertail	<i>Opuntia basilaris</i> var. <i>brachyclada</i>		CNPS 1B.2
Wooly mountain-parsley	<i>Oreonana vestita</i>		CNPS 1B.3
Rock Creek broomrape	<i>Orobanche valida</i> ssp. <i>valida</i>		CNPS 1B.2
Charlotte's phacelia	<i>Phacelia nashiana</i>		CNPS 1B.2
Parish's popcorn flower	<i>Plagiobothrys parishii</i>		CNPS 1B.1
Ewan's cinquefoil	<i>Potentilla glandulosa</i> ssp. <i>ewanii</i>		CNPS 1B.3
Parish's alkali grass	<i>Puccinellia parishii</i>		CNPS 1B.1
Black sedge	<i>Schoenus nigricans</i>		CNPS 2.2
Piute Mountains jewel-flower	<i>Streptanthus cordatus</i> var. <i>piutensis</i>		CNPS 1B.2
San Bernardino aster	<i>Symphyotrichum defoliatum</i>		CNPS 1B.2
Greata's aster	<i>Symphorotrichum greatae</i>		CNPS 1B.3
Golden violet	<i>Viola aurea</i>		CNPS 2.2

¹ Status Codes

SC = Species of Special Concern

CNPS 1A = Plants presumed extinct in California.

CNPS 1B = Species Identified by California Native Plant Society (CNPS) as rare, threatened or endangered in California and elsewhere

CNPS 2 = Species identified by CNPS as rare, threatened or endangered in California but more common elsewhere.

The numbers after decimals in the CNPS ratings reflect degrees of threat, based on the percentage of occurrences threatened, with .1 the highest degree of threat. (See:

<http://www.cnps.org/cnps/rareplants/ranking.php>)